UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,247	09/26/2003	Charles M. Milliren	34563US1	8704

116 7590 05/25/2007

PEARNE & GORDON LLP
1801 EAST 9TH STREET
SUITE 1200
CLEVELAND, OH 44114-3108

EXAMINER	
VO, HAI	

ART UNIT	PAPER NUMBER
1771	

MAIL DATE	DELIVERY MODE
05/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/672,247	MILLIREN ET AL.	
	Examiner	Art Unit	
	Hai Vo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-6,11,13,16-24,27-29 and 32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-6, 11, 13, 16-24, 27-29 and 32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. All of the art rejections have been withdrawn in view of the present amendment and arguments. However, upon further consideration, new ground of rejection is made in view of newly discovered references to WO 91/05489.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4-6, 11, 13, 16-24, 27-29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 91/05489 in view of Moore, III (US 6,453,476) and FR 2 717 659. WO '489 discloses a safety helmet comprising an outer shell 144 and a liner 142 as shown in figure 15. WO '489 discloses "the liner is retained in the helmet by the resilient action of the shell which holds it captive therein" (page 6, lines 15-17). The outer shell is formed from a thin plastic material of polypropylene with a thickness in the range from 0,5 to 1 mm (column 3, lines 15-17). Likewise, it is clearly apparent that the outer shell is a flexible material in view of the context of the full disclosure of WO '489. The outer shell includes a plurality of openings 172, 173 overlying the liner and providing fluid communication between the liner and the ambient environment as shown in figures 12 and 15. The outer shell is seamless. WO'489 teaches the liner made from a foam material. WO'489 does not teach a viscoelastic foam liner. Moore,

however, teaches a protective helmet comprising a viscoleastic foam liner 21 and a microshell 42 of a thin film of polypropylene (column 3, lines 58-62). Like Applicants, Moore uses a Confor 47 foam (column 5, lines 39-40). Likewise, the density, closed cell structure and shape recovery would be inherently present as like material has like property. Moore teaches replacing the conventional energy absorbing liner with a viscoelastic foam liner for more effectively providing protection to the wearer of a protective helmet (column 1, lines 60-65; and column 6, lines 30-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a viscoelastic foam liner as taught by Moore motivated by the desire to effectively provide more protection to the wearer of a protective helmet.

WO'489 does not specifically disclose the local rigidity of the outer shell being regulated by the number and size of the vent holes. WO' 489 does not teach the outer shell having a first zone and a second zone, each having a plurality of vent holes provided therein, the portion of the outer shell is more rigid adjacent the first zone than that adjacent the second zone by virtue of the relative size and/or density of vent holes provided in the first zone compared to in the second zone. FR '659, however, teaches a protective helmet wherein an outer shell has a first zone and a second zone, each having a plurality of vent holes provided therein, the portion of the outer shell is more rigid adjacent the first zone than that adjacent the second zone by virtue of the relative size and/or density of vent holes provided in the first zone compared to in the second zone (see figure

1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a protective helmet wherein an outer shell having a first zone and a second zone, each having a plurality of vent holes provided therein, the portion of the outer shell is more rigid adjacent the first zone than that adjacent the second zone by virtue of the relative size and/or density of vent holes provided in the first zone compared to in the second zone motivated by the desire to allow air circulation.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hai Vo

HV

HAI VO
PRIMARY EXAMINER